



Epic Games, Inc.

Professor Susan Athey Direct Examination

Qualifications

Economics of Technology Professor

Stanford Graduate School of Business

Ph.D., Economics

Stanford

B.A., Economics, Computer Science, and Mathematics

Duke

Former Consulting Chief Economist

Microsoft

California Governor's Council of Economic Advisors

Member

Assignment

Analyze whether Apple's conduct affects the competition faced by Apple's smartphone operating system platform.

Consider how middleware affects competition between mobile platforms and if Apple's conduct impedes the development of middleware.

Summary of Opinions

1. **Switching and mixing-and-matching costs lock users into the iOS ecosystem.**
2. **Middleware can meaningfully reduce costs for users and developers.**
3. **Apple's restrictions block users and developers from using middleware, which allows Apple to retain market power over users and developers.**

User Switching Costs

1 Check if apps are available on Android.



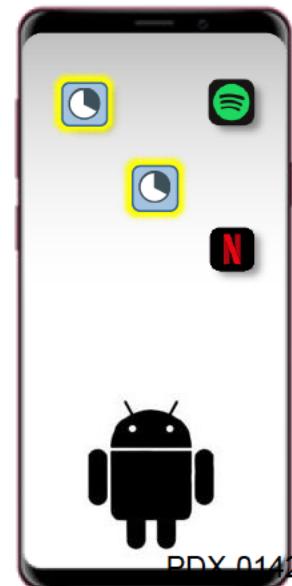
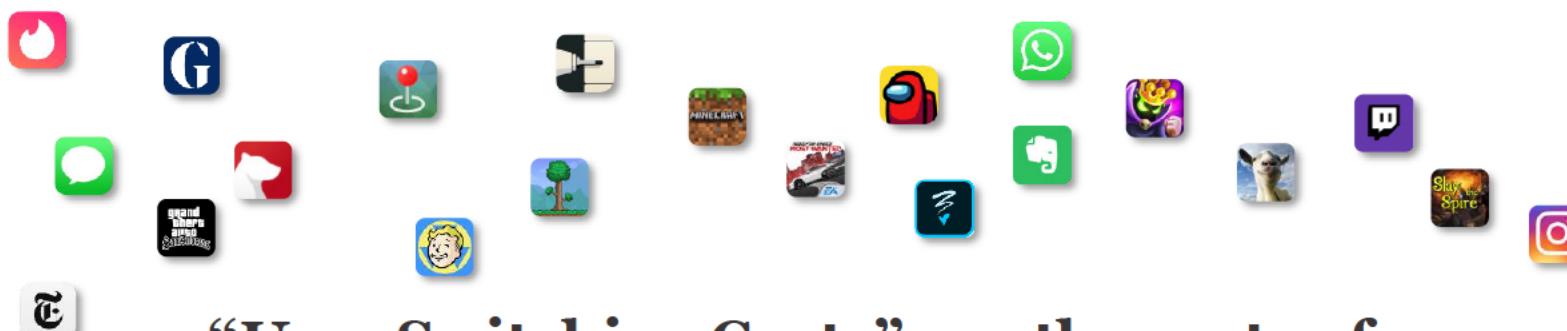
2 Identify alternatives to unavailable apps.



3 Purchase, repurchase, and reinstall apps.

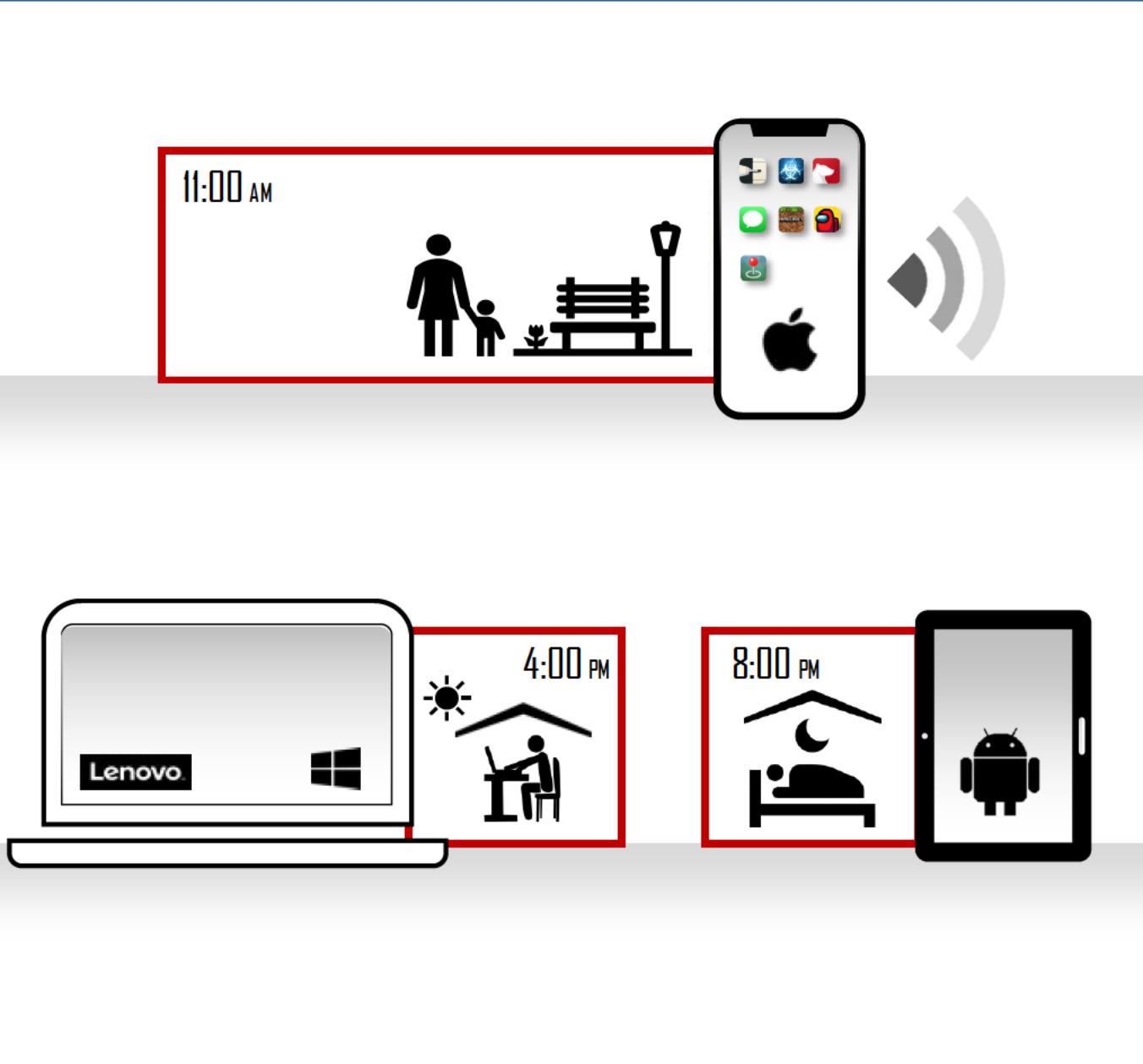


4 Transfer app-related data where available.



“User Switching Costs” are the costs of ending an affiliation with one mobile platform (iOS) and starting an affiliation with another mobile platform (Android).

Mixing-and-Matching Costs



Mixing-and-matching:
Cost to users of accessing apps and services on multiple devices with incompatible OSs.

- Identifying and locating cross-platform apps
- Repurchasing apps

Mixing-and-Matching Costs Within Groups



Personal Phone



Family Tablet



Child's First Phone



- Identifying and locating cross-platform apps
- Repurchasing apps
- Family sharing
- Parental Controls

Developer Multi-Homing Costs



Accounts



Support



Sync



Family Sharing



Challenges for Developers in Reducing User Switching and Mixing-and-Matching Costs

- Developing an account management infrastructure.
- Implementing a cross-platform payment infrastructure.
- Reduction in engagement from users who abandon the services if it requires account registration.
- No one-stop shop.

Developer Porting Costs



Accounts



Support



Sync



Family Sharing



Porting



**Making software available on
different operating systems**

Cross-Platform Stores Lower User Costs



Accounts



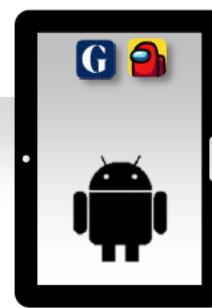
Support



Sync



Family Sharing



Cross-platform stores operate across multiple platforms, and therefore allow users to migrate and synchronize their apps on all of those platforms.



This, in turn, reduces their switching and mixing-and-matching costs.

Epic Games Store (EGS) Reduces Users' Switching and Mixing And Matching Costs



Available on

Windows PC



Mac OS



Account

Access EGS account on all supported devices

Library

Stores users' apps cross-platform

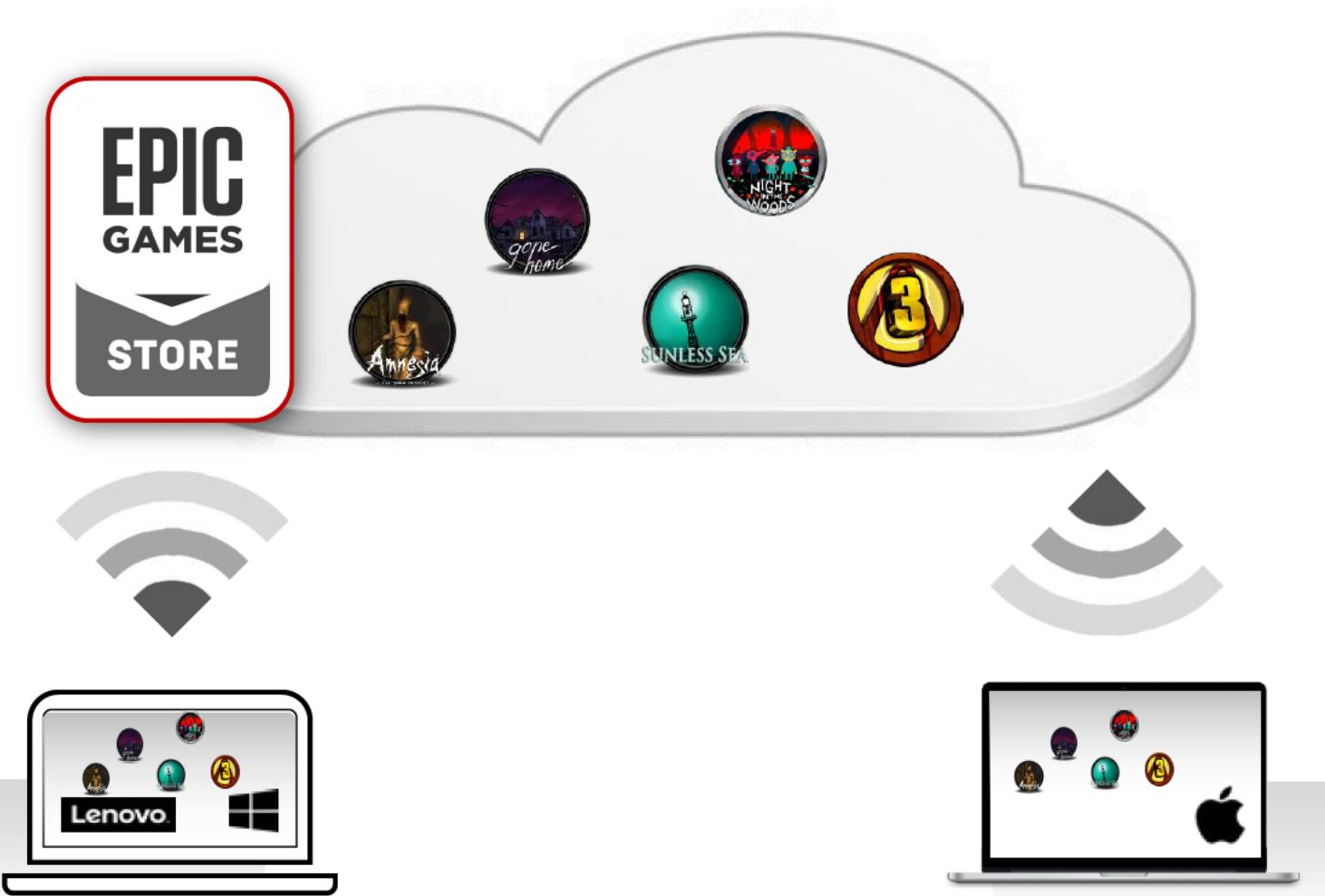
Cloud

Synchs apps, purchases and app data cross-platform

Wallet

Allows user to manage subscriptions and refunds across platforms

Epic Games Store Lowers Developer Multi-Homing Costs



- Makes apps available across platforms
- Cross-platform account management and authentication
- Cross-platform cloud storage
- Cross-platform in-app payment system

Steam Reduces Users' Switching and Mixing And Matching Costs



Available on

Windows PC



Mac OS



Linux PC



Account

Access account on all supported devices

Library

Stores users' apps cross-platform

Cloud

Synchs apps, purchases and app data cross-platform

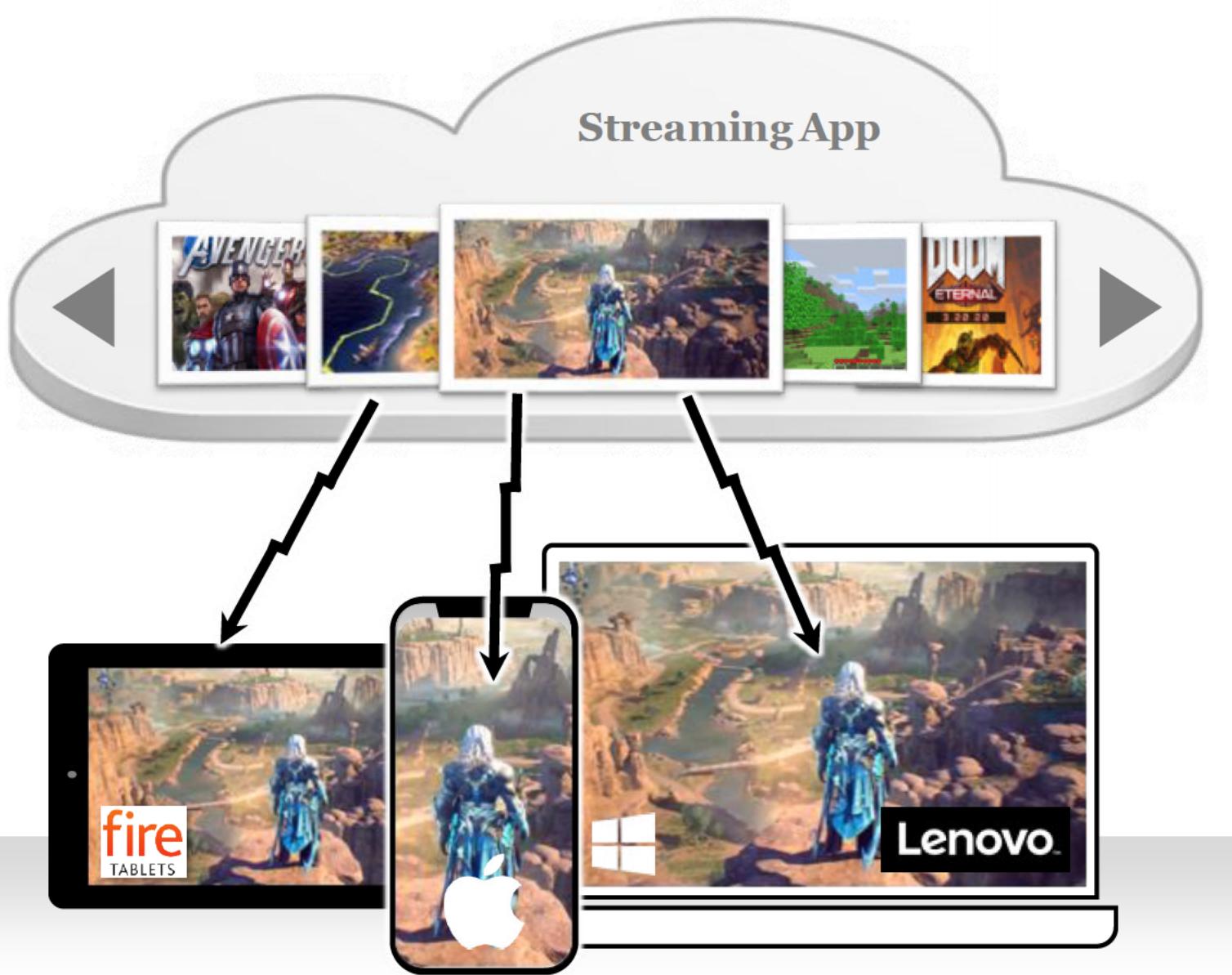
Wallet

Allows user to manage subscriptions and refunds across platforms

Family Sharing

Users can share apps and purchases cross-platform

Potential Benefits of Streaming Platforms



For Developers:

- Eliminates porting and multi-homing costs

For Users:

- Operates like a cross-platform app store
- Reduces the friction of consuming services across platforms.

Subject: Re: Back to School next year...
From: "Philip Schiller" [REDACTED]

Received(Date): Fri, 15
To: "Eddy"
Cc: "Tim C"
Date: Fri, 15

I reiterated to the team the card we did last year and proposals

I do think the new proposal better when you have more apps and iCloud ecosystem not only sell Macs and iPads young people as well. The iPhone).

On Feb 14, 2013, at 6:45

Great, I was told that BTS

And yes BTS is unrelated card margin and therefore

Let me know if you need

Sent from my iPhone

On Feb 14, 2013, at 6:57

Sounds like you have issues don't do for BTS

We had our very first meeting (for a bunch of meetings because you have to be explained because anyone jumps the gun and reacts to a proposal that hasn't been made yet). The team is going to model the idea and come back to discuss it.

On Feb 14, 2013, at 5:51 PM, Eddy Cue [REDACTED] wrote:

I understand that we have tentatively decided for a discount of \$100/\$50/\$50 for Mac/iPad/iPhone. Did we think that customers would buy significantly more if we gave them a straight discount instead of an iTunes card? If this isn't a huge difference, I think we are making a mistake. We are discounting our product instead of adding value to them. Getting customers using our stores (iTunes, App and iBookstore) is one of the best things we can do to get people



Mr. Eddy Cue:

Senior Vice President, Internet Software and Services

I understand that we have tentatively decided for a discount of \$100/\$50/\$50 for Mac/iPad/iPhone. Did we think that customers would buy significantly more if we gave them a straight discount instead of an iTunes card? If this isn't a huge difference, I think we are making a mistake. We are discounting our product instead of adding value to them. Getting customers using our stores (iTunes, App and iBookstore) is one of the best things we can do to get people hooked to the ecosystem. The more people use our stores the more likely they are to buy additional Apple products and upgrade to the latest versions. Who's going to buy a Samsung phone if they have apps, movies, etc already purchased? They now need to spend hundreds more to get to where they are today.

PX-0405.1-.2

Exhibit
PX 405

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PDX-0142.15